

WHAT IS CLAIMED IS:

- 1 1. A battery pack for an electronic device comprising:  
2 at least one battery cell assembly;  
3 an interface assembly cap having a size and shape for complementary  
4 engagement with one end portion of said battery cell assembly for providing an electrical  
5 connection means between said at least one cell and the electronic device, said interface  
6 assembly further providing an electrical connection to said at least one cell whether the  
7 battery pack is positioned within or outside the electronic device; and  
8 a resin encasing said battery cell assembly.
- 1 2. The battery pack as defined in claim 1, wherein said resin further comprises a  
2 low temperature melting resin.
- 1 3. The battery pack as defined in claim 2, wherein said resin further comprises a  
2 polyamide.
- 1 4. The battery pack as defined in claim 1, further comprising a thin foil wrapped  
2 around said battery cell assembly.
- 1 5. The battery pack as defined in claim 4, wherein said thin foil further comprises  
2 an adhesive foil.
- 1 6. The battery pack as defined in claim 4, wherein said thin foil further comprises a  
2 non-metallic/non-conducting adhesive foil.
- 1 7. The battery pack as defined in claim 1, further comprising an end cap having a  
2 size and shape for complementary engagement with an end portion of said battery cell  
3 opposite said interface assembly end portion.

1 8. The battery pack as defined in claim 7, further comprising a low-temperature  
2 melting resin encasing said end cap and said interface assembly cap.

1 9. The battery pack as defined in claim 8, wherein said interface assembly cap  
2 further comprises electrical connection contacts for providing external access to positive  
3 and negative voltage reference potentials.

1 10. The battery pack as defined in claim 9, wherein said voltage reference potential  
2 contacts are positionally located in accordance with the positional locations of the  
3 voltage reference potential contacts of the electronic device with which the battery pack  
4 is used.

1 11. The battery pack as defined in claim 10, further comprising means for aligning  
2 the battery pack when positioned within the electronic device.

1 12. The battery pack as defined in claim 1, wherein said at least one battery cell  
2 assembly further comprises a flat cell.

1 13. The battery pack as defined in claim 1 for use in a cellular telephone.

1 14. A method for molding a battery pack for an electronic device comprising the  
2 steps of:

3 providing at least one battery cell assembly having a desired shape and size and a  
4 positive voltage potential terminal and a negative voltage potential terminal;

5 providing an electrically conductive means for interfacing between the battery  
6 cell assembly and the electronic device;

7 electrically connecting the electrically conductive means to the battery cell  
8 assembly wherein the positive voltage potential terminal is connected to the positive  
9 voltage supply path of the electrically conductive means and the negative voltage

10 potential terminal is connected to the negative voltage supply path of the electrically  
11 conductive means;

12 placing the electrically conductive means and the battery cell assembly into a  
13 mold;

14 positioning and maintaining the electrically conductive means adjacent to and in  
15 contact with one end of the battery cell assembly;

16 closing the mold;

17 pouring a low temperature melting resin into the mold to encase the electrically  
18 conductive means and battery cell assembly; and

19 removing the thus molded battery pack from the mold.

1 15. The method as defined in claim 14, wherein the step of pouring further  
2 comprises pouring a polyamide.

1 16. The method as defined in claim 14, wherein the step of pouring further  
2 comprises pouring a polyurethane.

1 17. The method as defined in claim 14, further comprising the step of molding under  
2 low pressure.

1 18. The method as defined in claim 14, further comprising providing a flat battery  
2 cell assembly.

1 19. The method as defined in claim 14, wherein the step of providing an electrically  
2 conductive means further comprises providing a printed circuit board.

1 20. The method as defined in claim 14, wherein the step of providing an electrically  
2 conductive means further comprises providing a gold-plated nickel conductor.

1 21. The method as defined in claim 14, wherein the step of placing into a mold  
2 further comprises placing into a metal mold.

1 22. A battery pack for a cellular telephone comprising:  
2 at least one battery cell assembly having a desired shape and size and a positive  
3 voltage potential terminal and a negative voltage potential terminal;  
4 means defining an electrical conductive path for interfacing the battery cell  
5 assembly and the cellular telephone, wherein the electrical conductive path means has a  
6 positive voltage potential contact electrically connected to the battery cell assembly  
7 positive voltage potential terminal and a negative voltage potential contact electrically  
8 connected to the battery cell assembly negative voltage potential terminal, said positive  
9 and negative voltage potential contacts located and positioned for contact with the  
10 positive and negative voltage potential terminals of a cellular telephone with which the  
11 battery pack is used; and  
12 a resin encasing said battery cell assembly and said electrical conductive path  
13 means to form a relatively thin wall molded battery pack.

1 23. The battery pack as defined in claim 22, wherein said resin further comprises a  
2 low temperature melting resin.

1 24. The battery pack as defined in claim 23, wherein said resin comprises a  
2 polyamide.

1 25. The battery pack as defined in claim 23, wherein said resin comprises a  
2 polyurethane.

1 26. The battery pack as defined in claim 22, wherein said electrical path conductive  
2 means further comprise charging control circuitry.

1 27. The battery pack as defined in claim 22, wherein said electrical path conductive  
2 means further comprise battery cell voltage and current monitoring and status indication  
3 circuitry.

1 28. The battery pack as defined in claim 22, wherein said electrical path conductive  
2 means further comprise interfacing connection means between the battery cell and  
3 charging control circuitry in the cellular telephone.

1 29. The battery pack as defined in claim 22, wherein said electrical path  
2 conductive means further comprise interfacing connection means between the battery  
3 cell and battery cell monitoring and status indication circuitry in the cellular  
4 telephone.

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